

**REMARKS**

Claims 1 and 3-7 are pending in the application. Claims 1 and 3-7 have been rejected under 35 U.S.C. § 103.

Applicants have amended Claims 1 and 3 herewith.

At line 23 of Claim 1, the word “at” has been inserted before “least.” At line 24, the word “and” is inserted before “aryloxy.” At line 30, the word “be” is inserted after “may.” Also, at lines 24-29 of Claim 1, the phrase “arylalkyl groups having 7 to 60 carbon atoms, arylalkoxy groups having 7 to 60 carbon atoms, arylalkenyl groups having 8 to 60 carbon atoms, arylalkynyl groups having 8 to 60 carbon atoms, mono-arylamino groups having 6 to 60 carbon atoms, diarylamino groups having 16 to 60 carbon atoms, and heterocyclic compound groups having 2 to 60 carbon atoms” is deleted.

Claim 3 has been amended to depend solely from Claim 1.

At paragraph 4 of the Office Action, Claims 1 and 3-7 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Reisch et al. in Macromol. Chem. Phys. Vol. 200, No. 3 (1999), pp. 552-561 (“Reisch”).

Reisch is relied upon as teaching homologs that are allegedly within the scope of the present claims.

Applicants submit that the presently claimed polymeric fluorescent substance is not taught, suggest or rendered obvious by Reisch. Specifically, Applicants submit that Reisch does not teach or suggest a polymeric substance that has an “Ar<sub>1</sub>” group having one substituent

represented by formula (2), *i.e.*, -X-Ar<sub>2</sub>. Applicants additionally submit that Reisch also does not teach the use of a substituent that falls within the scope of formula (2).

Applicants note that the prior art polymers of Reisch which are relied upon by the Examiner (polymers 11a-e) are di-substituted with the phenoxy group, wherein the phenyl is 4-*tert*-butylphenyl. It is clearly specified in Claim 1, however, that 4-*tert*-butylphenyl group is outside the scope of Claim 1.

In the present invention, “Ar<sub>2</sub>” represents a heterocyclic compound group having 2 to 60 carbon atoms participating in the conjugation or an aryl group having 6 to 60 carbon atoms participating in the conjugation and having at least one substituent thereon. The substituents on the aryl group are selected from linear, branched or cyclic alkyl groups having 5 to 20 carbon atoms, alkoxy groups carrying a linear, branched or cyclic alkyl group having 1 to 20 carbon atoms, alkylthio groups carrying a linear, branched or cyclic alkyl group having 1 to 20 carbon atoms, mono-, di- or tri-alkylsilyl groups having 1 to 60 carbon atoms, mono- or di-alkylamino groups having 1 to 40 carbon atoms, aryl groups having 6 to 60 carbon atoms and having at least one substituent thereon, and aryloxy groups having 6 to 60 carbon atoms.

Thus, Reisch’s 4-*tert*-butylphenyl group does not teach or suggest substituents for the claimed “Ar<sub>2</sub>” group. Applicants also submit that 4-*tert*-butylphenyl group is not a homolog of the claimed substituents. Furthermore, one of ordinary skill in the art would not have been motivated to modify Reisch’s 4-*tert*-butylphenyl group since it is taught that the use of 4-*tert*-butylphenyl groups result in “[t]he polymers with the best solubility.” *See* Reisch, page 554, col. 1, lines 17-18 (emphasis ours).

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Applicants further submit that even if Reisch's 4-*tert*-butylphenyl-substituted phenyl was considered a homolog of "Ar<sub>2</sub>," Reisch would not render the claimed substance obvious since Reisch teaches that the phenyl group is di-substituted with 4-*tert*-butylphenyl groups. Applicants submit that Claim 1 clearly specifies that "Ar<sub>1</sub>" has only one substituent that is represented by formula (2), *i.e.*, -X-Ar<sub>2</sub>.

In view of the foregoing, Applicants submit that the rejection of Claims 1-5 over Reisch should be reconsidered and withdrawn.

At paragraph 5 of the Office Action, Claims 1 and 3-7 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent No. 5,817,430 to Hsieh et al. ("Hsieh").

It is the Examiner's position that the claimed polymeric fluorescent substance would have been obvious based on the monomers of Hsieh.

Applicants submit that the presently claimed polymeric fluorescent substance is not taught, suggest or rendered obvious by Hsieh. Specifically, Applicants submit that Hsieh does not teach or suggest the presently claimed substituent "Ar<sub>2</sub>."

The Examiner relies on Hsieh as teaching polymers having the claimed "Ar<sub>2</sub>" group. *See* page 4 of the Office Action. Applicants submit, however, that these alleged equivalents do not teach or suggest "Ar<sub>2</sub>" as it is presently claimed.

Thus, Applicants respectfully submit that the rejection of Claims 1-5 over Hsieh should be reconsidered and withdrawn

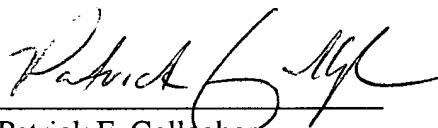
In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the

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Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Patrick F. Gallagher", written over a horizontal line.

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